

XXXV.—A Collection of Plants from Sarawak. By E. D. MERRILL, Berkeley, California.

In the early part of 1923, Dr. E. Mjöberg, then Director of the Sarawak Museum at Kuching, sent to me at the Bureau of Science in Manila a small collection of plants that he had prepared incidental to his field work in Entomology and Zoology. This was followed by a second similar collection which was forwarded to me at Berkeley, California, in 1924, after my transfer to University of California. These two collections form the basis of the present paper.

The ferns collected by Dr. Mjöberg were for the most part sent to the late Prince Roland Bonaparte in Paris, this being true of all the ferns in the second collection mentioned above; Fifty-five species of ferns and fern allies have been reported upon by him¹. The orchids in the first lot received were sent by me to Mr. Oakes Ames, Boston, Massachusetts, and those of the second collection were sent to him direct by Dr. Mjöberg. This accounts for the fact that but very few ferns and no orchids are enumerated in this paper. In the first collection received the orchids comprised approximately fifty per cent of the entire collection and this is probably true also of the second collection.

The material herein considered was collected at different times on Mounts Dulit, Matang, Murud, Poi, Penrissen, and Gadin, chiefly from higher altitudes, together with some low altitude material from the vicinity of Kuching, and at Lundu, Sadong, Santubong, Bidi Caves, and near the foot of Mount Poi.

¹ Bonaparte, R.—Bornéo [Fougères] récoltes du Dr. E. Mjöberg. *Herbier du Prince Bonaparte—Notes Pteridiologiques* 14 p. 477-488.

Approximately one hundred and seventy-five species are represented in the material handled by me and of these thirty are herein described as new, while a half dozen previously described forms are credited to Borneo for the first time. These figures in themselves are a striking commentary on our present lack of knowledge of the Bornean flora, in that twenty per cent of all the species in a rather casually prepared collection are either new or new to Borneo.

In view of the fragmentary nature of the collections from the various localities it has not been considered advisable to prepare separate lists for the material from each region, as such lists would be of slight significance. I have, therefore, prepared a general enumeration of the entire collection studied by me. For those species previously recorded from Borneo references have been added to my "Bibliographic enumeration of Bornean plants"¹, where data as to the places of publication and synonyms as well as the known distribution of each are given. For those previously described forms that are not listed in the above publication citations to the original place of publication of each have been added.

The actual types of the species herein described as new are deposited in the Herbarium of the University of California. So far as duplicates were available, a set has been deposited in the Herbarium of the British Museum, Natural History, London.

PTERIDOPHYTA.

HYMENOPHYLLACEAE.

TRICHOMANES Linnaeus.

TRICHOMANES PLUMA Hook. Ic. 10 (1854) t. 997.

Mount Dulit and Mount Murud, Nos. 19, 67, above an altitude of 1200 m. Malaysia to New Caledonia and Samoa.

¹ Journal Straits Branch Royal Asiatic Society. Extra number (1921) 1-637.

POLYPODIACEAE.

POLYPODIUM Linnaeus.

POLYPODIUM ALBIDOSQUAMATUM Blume Enum. Pl. Jav. (1828) 132.

Mount Murud, *No. 71*, at or above 1900 m. altitude
Malay Peninsula to the Philippines and New Guinea.

POLYPODIUM TAXODIODES Baker in Journ. Bot. 17 (1879) 42.

Mount Murud, *No. 70*. The species known only from
Borneo, a variety in New Guinea.

POLYPODIUM TRIQUETRUM Blume Enum. Pl. Jav. (1828) 124.

Mount Murud, *No. 68*, at high altitudes. Malay Peninsula
to Java, the Philippines and Samoa.

SCHIZAECEAE.

SCHIZAEA Smith.

SCHIZAEA MALACCANA Baker Syn. Fil. (1868) 428.

Mount Poi, *s.n.*, at or above an altitude of 1400 m. Burma
to Malaysia, not however occurring in the Philippines as
stated by some authors.

LYCOPODIACEAE.

UROSTACHYS Herter.

UROSTACHYS PHLEGMARIA (Linn.) Hert. in Philip. Journ. Sci.,
22, 1923, 66, (*Lycopodium phlegmaria* Linn.)

Mount Murud, *No. 73*, at or above an altitude of 1900 m.
Pantropic.

UROSTACHYS VERTICILLATUS (Linn. f.) Hert. op. cit. 62.

(LYCOPODIUM VERTICILLATUM Linn. f.)

Mount Murud, *No. 73*, with the preceding species.
Pantropic.

SPERMATOPHYTA.**Gymnospermae.****TAXACEAE.****DACRYDIUM Solander.**

DACRYDIUM BECCARII *Parl.*; Merr. Enum. Born. Pl.; (1921) 30.

Mount Dulit and Mount Murud, Nos. 23, 100, at and above altitudes of 1200 m. Both specimens are sterile but apparently representing Parlator's species, the type of which was from Mount Poi. Known only from Borneo.

DACRYDIUM ELATUM (Roxb.) Wall.; Merr. Enum. Born. Pl. (1921) 30.

Mount Poi and Mount Penrissen, from altitudes of about 1500 m. No. 221, s.n., the former representing the juvenile form. Indochina to Malay Peninsula, Philippines, and Fiji.

PHYLLOCLADUS L.C. & A. Richard.

PHYLLOCLADUS HYPOHYLLUS Hook. f., Merr. Enum. Born. Pl. (1921) 31.

Mount Poi, s.n., altitude about 1500 m. Philippines.

PODOCARPUS L'Héritier.

PODOCARPUS JAVANICUS (Burm. f.) Merr. in Philip. Journ. Sci. 19 (1921) 334. *P. imbricatus* Blume, *P. curpresinus* R. Br.).

Mounts Murud, Penrissen, and Poi, No. 99, s.n. at and above an altitude of 1500 m. Burma and Indochina to Sumatra, Java, and New Guinea.

Angiospermae.**MONOCOTYLEDONAE.****GRAMINEAE.****LEPTASPIS R. Brown.**

LEPTASPIS URCEOLATA (Roxb.) R. Br., Merr. Enum. Born. Pl. (1921) 48.

Mount Poi, No. 142, near the foot of the mountain. Ceylon to New Guinea.

ISACHNE R. Brown.

ISACHNE JAVANICA Nees; Merr. Enum. Born. Pl. (1921) 44.

Mount Poi, No. 183, at or above an altitude of 1500 m. Burma to the Malay Peninsula and Java.

CYPERACEAE.

HYPOLYTRUM L. C. Richard.

HYPOLYTRUM SCIRPOIDES (Presl) Merr. Enum. Philip. Pl. 1 (1922) 103. (*H. viridinox* C. B. Clarke).

Mount Poi, s. n., near the foot of the mountain. Philippines.

CYPERUS Linnaeus.

CYPERUS DIFFUSUS Vahl; Merr. Enum. Born. Pl. (1921) 55.

Lundu, No. 227, at low altitudes. Pantropic.

MARISCUS Gaertner.

MARISCUS CYPERINUS (Retz.) Vahl; Merr. Enum. Born. Pl. (1921) 56.

Lundu, s. n., at low altitudes. Old World, tropics generally.

MARISCUS DILUTUS (Vahl) Nees; Tropical Asia to the Mascarene Islands and Malaysia; more commonly known as *Mariscus microcephalus* Preal.

CAREX Linnaeus.

CAREX CRUCIATA Vahl.; Merr. Enum. Born. Pl. (1921) 67.

Mount Murud, No. 113, at high altitudes. India to China, Borneo and the Philippines.

Palmae.

CALAMUS Linnaeus.

CALAMUS RERRUGINEUS Becc.; Merr. Enum. Born. Pl. (1921) 74.

Mount Murud, No. 126, altitude about 1900 m. Known only from Borneo.

Calamus pilosellus Becc.; Merr. op. cit. 76.

Mount Murud, No. 128, with the preceding and like it known only from Borneo.

PINAGA Blume.

PINAGA GRACILLIMA sp. nov. § *Orthostichanthe*.

Trunco gracili, circiter 4 mm diametro; foliis 15 ad 23 cm longis, profunde bifidis, subcoriaceis, lobis 12 ad 16 cm longis, 1.3 ad 2 cm latis, glabris, longitudinaliter 5-vel 6-plicatis, apice breviter lobatis, lobis oblongo-ovatis ad lanceolatis, rigidis, acutis vel acuminatis, 5 ad 10 mm longis; petiolo furfuraceo, circiter 2 cm longo, vaginis, 5 ad 8 mm diametro, junioribus furfuraceis, vetustioribus glaberrimis; spathis ignotis; spadicis circiter 13 cm longis, pedunculo vox 3 cm longo, circiter 3 mm diametro, ramis 3, gracilis ciciter 9 cm longis, patulis; fructibus distantibus, 2-rectiserialiter dispostis, oblongo-ellipsoideis vel lanceolato-ellipsoideis, circiter 14 mm longis, 5 mm diametro, utrinque sub-aequaliter angustatis, apice acutis vel brevissime obtuseque rostratis.

Mount Poi, E. Mjöberg s.n., altitude about 1500 m.

A species remarkable for its small bifid leaves and very slender trunks, the maximum diameter of the latter in the specimen before me being 4 mm. Its alliance is with *Pinanga mirabilis* Becc. and *P. tomentella* Becc.

ARACEAE.

HOMALOMENA Schott.

HOMALOMENA PALUDOSA Hook. f., Merr. Enum. Born. Pl. (1921) 95.

Kuching, No. 166, at low altitudes. Malay Peninsula.

ERIOCAULACEAE.

ERIOCAULON Linnaeus.

ERIOCAULON HOOKERRIANUM Stapf; Merr. Enum. Born. Pl. (1921) 110.

Mount Poi, No. 128, altitude about 1500 m. Previously known only from Mount Kinabalu, British North Borneo.

ERIOCAULON LONGIFOLIUM Nees; Merr. l.c.

Near Kuching, No. 211. Ceylon to Madagascar, southern China, and Malaysia.

PONTEDERIACEAE.

MONOCHORIA Presl.

MONOCHORIA VAGINALIS (Burm. f.) Presl; Merr. Enum. Born. Pl. (1921) 111.

Kuching, *s.n.* Tropical Asia to Africa, Japan, and Malaysia.

LILIACEAE.

SMILAX Linnaeus.

SMILAX CALOPHYLLA Wall. Cat. No. No. 5131; A.D.C. Monog. Phan. 1 (1878) 60.

Mount Poi, *s.n.*, altitude about 1500 m. Malay Peninsula and Sumatra, new to Borneo.

DIANELLA Lamarck.

DIANELLA ENSIFOLIA (Linn. DC.; Merr. Enum. Born. Pl. (1921) 114.

Mount Murud and Mount Poi, *Nos. 123, 195*, at and above an altitude of 1500 m. Widely distributed in the Old World tropics.

ZINGIBERACEAE.

HEDYCHUM Koenig.

HEDYCHUM MJÖBERGII sp. nov. § *Gandasulium*.

Ut videtur epiphytica; foliis chartaceis, oblongis, acuminatis, circiter 17 cm longis et 5 cm latis, acuminatis, deorsum angustatis, basi cuneatis, glabris vel parcissime pilosis, nervis primariis utrinque circiter 12, tenuibus, adscendentibus, indistinctis; petiolo circiter 1.5 cm longo; vaginis plus minusve adpresse pilosis; ligulis anguste oblongis, obtusis, adpresse pilosis, petiolo subaequantibus; infloescentis terminalibus, cylindraceutis, circiter 15 cm longis, 2 ad 2.5 cm diametro, breviter pedunculatis, bracteis imbricatis, chartaceis vel membranaceis, ellipticis ad oblongo-ellipticis, circiter 3 cm longis, 1.5 cm latis, rotundatis, extus perspicue adpresse ferrugineo-pilosis, intus glabris vel subglabris, plerumque bifloris; bracteolis circiter 1.5 cm longis; calycis tubo circiter

3.5 cm longo, tenue, cylindrico, extus adpresse-piloso; corolae tubus 6 ad 7 cm longus, gracillimus, glaber, lobi angustissime lineares, circiter 2.5 cm longi, 1 mm lati; labellum circiter 2.5 cm longum, stipitatum, stipite circiter 1 cm longo, limbo elliptico, 1.5 cm longo, apice bifido angustis, circiter 3 mm longis; filamentis longe exsertis, antheris circiter 4 mm longis.

Mount Murud, No. 121 E. Mjöberg, October, 1922, from between the altitudes of 1900 and 2400 m. No. 118, from the same locality, a fruiting specimen probably represents the same species.

A species manifestly belonging in the same group as *Hedychium hasseltii* Blume but much smaller, with shorter leaves, very much shorter spikes and entirely different flowers.

CAMPTANDRA Ridley.

CAMPTANDRA ANGUSTIFOLIA Ridl.?; Merr. Enum. Born. Pl. (1921) 120.

Mount Poi, No. 119, near the foot of the mountain. A fruiting specimen, its reference here uncertain. Ridley's species is known only from Sarawak.

HAPLOCHOREMA K. Schumann.

HAPLOCHOREMA sp.?

Lundu, No. 229, April, 1924, an imperfect specimen.

BURBIDGEA Hooker f.

BURBIDGEA NITIDA Hook. f.; Merr. Enum. Born. Pl. (1921) 127.

Mount Murud, No. 122. A monotypic genus known only from Borneo.

GLOBBA Linnaeus.

GLOBBA ATROSANGUINEA Teysm. & Binn., Merr. Enum. Born. Pl. (1921) 122.

Mounts Matang, Penrissen, and Poi, Nos. 144, 224, s.n., at low altitudes, the indentifications by H. N. Ridley. Borneo and Sumatra.

GLOBBA BRACHYANTHERA K. Schum., Merr. op. cit. 223.

Mount Poi, No. 197, det. Ridley, altitude about 650 m. Known only from Borneo.

GLOBBA BURBIDGEI Ridl. in Journ. Bot. 63, 1925) 204.

Lundu, No. 233, April, 1924, det. Ridley. Known only from Borneo.

GLOBBA TRICOLOR Ridl., Merr. l.c.

Mounts Dulit, Matang, and Poi, Nos. 14, 207, s.n., altitude 350 to 1500 m. Known only from Sarawak. Determinations by H. N. Ridley.

BURMANNIACEAE.

BURMANNIA Linnaeus.

Burmattia longifolia Becc., Merr. Enum. Born. Pl. (1921) 133.

Mount Dulit, No. 22, between an altitude of 1200 and 1500 m. On the higher mountains of the Malay Peninsula, Borneo, the Philippines, Amboina, and New Guinea.

DICOTYLEDONAE.

PIPERACEAE.

PIPER Linnaeus.

PIPER sp.

Mount Poi, s.n., at or above an altitude of 1500 m. a single specimen.

MORACEAE.

CONOCEPHALUS Blume.

CONOCEPHALUS AMETHYSTINUS Winkl., Merr. Enum. Born. Pl. (1921) 228.

Near Kuching, No. 209. Known only from Borneo.

URTICACEAE.

PILEA Lindley.

PILEA sp.

Bidi Caves, s.n., stem and leaves only.

POLYGONACEAE.

POLYGONUM Tournefort.

POLYGONUM PEDUNCULARE Wall., Merr. Enum. Born. Pl. (1921) 245.

Mount Murud, *No. 130*, altitude about 900 m. Tropical Asia to Africa.

MAGNOLIACEAE.

ILLICIUM Linnaeus.

ILLICIUM CAULIFLORUM sp. nov.

Arbor parva, glabra; foliis subcoriaceis, in siccitate olivaceis, utrinque concoloribus, verruculosis, oblong-lanceolatis, subfalcatis, acuminatis, basi cuneatis, 8 ad 10 cm longis, costa supra impressa, nervis lateralibus utrinque circiter 8, supra obscuris, subtus obsolete; petiolo 1 ad 1.5 cm longo; floribus solitariis, lateralis, e ramis vetustioribus, circiter 1.5 cm diametro bibracteolatis, bracteolis ovatis, acutis, 2.5 ad mm longis, margine ciliatis, pedicellis 1 ad 2 cm longis; perianthi segmentis circiter 11, exterioribus (2 vel 3) late ovatis, acutis vel leviter acuminatis, circiter 3 mm longis, plus minusve ciliatis, interioribus majoribus, elliptico-ovatis ad oblongo-ovatis, circiter 8 mm longis, 5 ad 6.5 mm latis, rotundatis; staminibus 20, 1-seriatis, 2.2 mm longis, filamentis brevibus, antheris crassis, obtusis, filamentis subaequantibus; carpellis 11, glabris, circiter 4 mm longis.

Mount Murud, *No. 114*, E. Mjöberg, from between the altitudes of 1900 and 2400 m.

A very strongly marked species characterized by its obscurely nerved leaves and its solitary, pedicelled flowers which are borne on the branches below the leaves, as well as by its broad perianth-segments and its short, stout, 1-seriate anthers.

DRIMYS Forster.

DRIMYS PIPERITA Hook. f., Merr. Enum. Born. Pl. (1921) 252.

Mounts Murud and Poi, *Nos. 101, 102, 193*. High mountains of Borneo, the Philippines, and New Guinea.

ANONACEAE.

POLYALTHIA Blume.

POLYALTHIA BECCARII King; Merr. Enmu. Born. Pl. (1921) 256.

Mount Gadin, Lundu, *s.n.* Malay Peninsula and Borneo.

NEPENTHACEAE.

NEPENTHES Linnaeus.

NEPENTHES LOWII Hook. f., Merr. Enum. Born. Pl. (1921) 283.

Mount Murud, No. 115, the lower portion of a leaf and a detached inflorescence only, no pitcher. Known only from Borneo.

NEPENTHES TENTACULATA Hook. f. var. *imberbis* Becc., Merr. op. cit. 285.

Mount Poi, No. 155. Known only from Borneo.

NEPENTHES sp.

Mount Murud, No. 125, a detached inflorescence only.

SAXIFRAGACEAE.

POLYOSMA Blume.

POLYOSMA MJÖBERGII sp. nov.

Frutex vel arbor parva; ramis teretibus, glabris, ramulis pubescentibus, internodis 5 ad 7 mm longis; foliis numerosis, confertis, oppositis, oblongis ad oblongo-ellipticis, margine revolutis, integris, 3 ad 5 cm longis, 1 ad 1.5 cm latis, basi acutis, apice rotundatis ad obtusis vel abrupte brevissime acuminatis junioribus supra leviter pubescentibus, vetustioribus glabris, nitidis, olivaceis, subtus pallidioribus, puberulis, nervis primariis utrinque circiter 8, distinctis; petiolo 5 ad 8 mm longo, pubescente; inflorescentiis brevibus, confertis, paucifloris, circiter 3 cm longis, dense pubescentibus, pedicellis circiter 3 mm longis; bracteis oblongo-lanceolatis, 3 ad 4 mm longis; calyce 4 mm longo, lobis 1 mm longis, perspicue acuminatis; petalis lanceolatis, obtusis, pubescentibus, intus (basi excepto) villosis; filamentis hirsutis.

Mount Murud, *No. 107*, E. Mjöberg, October, 1922, between altitudes of 1900 and 2400 m.

A species perhaps as closely allied to *Polyosma hookeri* Stapf as any other species but with flowers only about one-half as long as in the latter species.

LEGUMINOSAE.

MASTERSIA Bentham.

MASTERSIA BORNEENSIS Harm; Merr. Enum. Born. Pl. (1921) 310.

Kalabit country, Mount Murud trip, *No. 131*, altitude about 1000 m. Known only from Borneo.

MUCUNA Adanson.

MUCUNA GIGANTEA (Willd.) DC., Merr. Enum. Born. Pl. (1921) 309.

Mount Poi, *No. 154*, near the foot of the mountain. Usually near the sea, tropical Asia through Malaysia to Polynesia.

POLYGALACEAE.

POLYGALA Tournefort.

POLYGALA VENENOSA Juss., Merr. Enum. Born. Pl. (1921) 95.

Mount Murud, *No. 95*, near the foot of the mountain. Malay Peninsula and Archipelago extending to the Philippines.

POLYGALA sp.

Mount Murud, *No. 91*, at or above an altitude of 1500 m. An imperfect specimen representing either an undescribed species or one new to Boreo.

SALOMONIA Loureiro.

SALOMONIA CANTONIENSIS Lour., Merr. Enum. Born. Pl. (1921) 324.

Lundu, *No. 236*. Southeastern China to the Philippines and Malaysia.

EUPHORBIACEAE.

ANTIDESMA Burman.

Antidesma tomentosum Blume, Merr. Enum. Born. Pl. (1921)

ANTIDESMA TOMENTOSUM Blume, Merr. Enum. Born. Pl. (1921) 333.

Mount Poi, *s.n.*, altitude about 1500 m. Malay Peninsula to Java and Celebes.

TRIGONOSTEMON Blume.

TRIGONOSTEMON DIFFUSUS sp. nov. § *Eutrigonostemon*.

Frutex vel arbor parva, subglabra, ramis teretibus, glabris, pallidis, circiter 2 mm diametro, ramulis tenuibus, novellis plus minusve hirsutis; foliis inaequalibus, membranaceis, olivaceis, glabris vel subtus ad costa nervisque parcissime hirsutis, lanceolatis ad oblongo-lanceolatis, 12 ad 19 cm longis, 3.5. and 6 cm latis, tenuiter caudato-acuminatis, basi acutis et plerumque supra biglandulosis, distanter crenato-denticulatis, nervis primariis utrinque circiter 10, subtus distinctis, arcuato-anastomosantibus; petiolo 1 ad 2.5 cm longo; inflorescentiis terminalibus lateralibusque, tenuis, diffusis, plerumque longe tenuiter pedunculatis, multiramosis, 15 ad 35 cm longis, glabris; floribus ♂ caducis, circiter 7.5 mm diametro, sepalis ovatis, obtusis vel rotundatis, 2 mm longis; petalis oblongo-ovatis, ut videtur atro-purpureis, glabris, circiter 4 mm longis, 2.8 mm latis, deorsum angustatis; antheris 3, oblongis, 0.8 mm longis. Floribus ♀ fructibusque ignotis.

Mount Poi, No. 145, E. Mjöberg, near the foot of the mountain.

A species remarkable for its very slender, elongated, diffuse, staminate inflorescences which attain a length of 30 cm, in some cases the branches being comparatively few, in others being very numerous. The flowers fall very readily so that in spite of the greatly developed inflorescences the flowers at any one time are apparently very few in number.

MALLOTUS Loureiro.

MALLOTUS BRACHYTHYRSUS sp. nov. § *Arcnfeldia*.

Frutex vel arbor parva, inflorescentiis exceptis glabra, ramis teretibus; foliis alternis, chartaceis, lanceolatis ad oblongo-lanceolatis, 7 ad 11 cm longis, 2.5 ad 3.5 cm latis, in siccitate castaneo-olivaceis, nitidis, concoloribus, tenuiter acuminatis, basi subacutis, bimaclatis, margine deorsum integris, sursum leviter repando-crenatis, subtus parvissime granuloso-glandulosis, nervis utrinque circiter 8, distinctis; petiolo 3 mm longo; stipulis lanceolatis, acuminatis, glabris, circiter 1 cm longis; inflorescentiis ♂ oppositifoliis, racemosis vel depauperato-paniculatis, circiter 1 cm longis, paucifloris, plus minusve cinereo-pubescentibus et granuloso-glandulosis, bracteolis ovatis, ad oblongo-ovatis, leviter pubescentibus, acuminatis, circiter 2 mm longis; floribus breviter pedicellatis, sepalis 3, oblongo-glandulosis; staminibus circiter 30, filamentis 1 ad 2 mm longis, antheris orbiculari-ellipticis, connectivo haud producto.

Mount Poi, No. 147. E. Mjöberg, near the foot of the mountain.

A species well characterized by its very short few flowered staminate inflorescences. Pistillate flowers and fruits unknown.

CELASTRACEAE.

LOPHOPETALUM Wight & Arnott.

LOPHOPETALUM BECCARIAUM Pierre, Merr. Enum. Born. Pl. (1921) 354.

Mount Poi, No. 143, near the foot of the mountain. The specimen almost certainly represents this very imperfectly described species which is known only from Sarawak.

AQUIFOLIACEAE.

ILEX Linnaeus.

ILEX CONFERTIFOLIA sp. nov. § *Thyrsoprinus*, (Hl?)4).

Frutex glaberrimus (vel arbor parva), ramis rigidis, ramulis circiter 2 mm diametro; foliis numerosis, crasse coriaceis, oblongis, obtusis, circiter 1 cm longis, 3 ad 5 mm latis, in

siccitate valde longitudinaliter revolutis, obtusis, costa supra impressa, nervis obsoletis; racemis paucis, in axillis superioribus, 4 ad 6-floris, haud 3 mm longis, rhachi crassa, glabra; pedicellis circiter 2 mm longis; calyis circiter 2.5 mm diametro, lobis late ovatis, parce ciliatis; corolla geabra, circiter 2 mm longa, lobis 4 vel 5, oblongo-ovatis, obtusis, 1.4 mm longis; ovario 4 vel 5-loculari.

Mount Murud (No. 93, E. Mjöberg, October, 1922, near the summit of the mountain, apparently in exposed places, altitude about 2400 m.

A species allied to *Ilex havilandii* Stapf of mount Kinabalu but with smaller, differently shaped, nerveless leaves, shorter and fewer flowered racemes, shorter pedicels, and slightly ciliate calyces.

ELAEOCARPACEAE.

ELAEOCARPUS Linnaeus.

ELAEOCARPUS MURUDENSIS sp. nov. § *Dicera*.

Arbor, partibus junioribus dense pubescentibus, ramis glabris, ramulis subferrugineo-pubescentibus; foliis numerosis, oblongo-ellipticis, olivaceis, opacis, 6 ad 10 cm longis, 2 ad 4.5 cm latis, obtusis, basi acutis ad obtusis, margine leviter crenatis, crenulis saepe apiculatis, utrinque in sicco perspicue pistulatis, supra (junioribus exceptis) glaberrimus, subtus ad costa nervisque pilosis; nervis lateralibus utrinque 6 vel 7, perspicuis, arcuato-anastomosantibus, laxe reticulatis; petiolo 8 ad 15 mm longo; racemis axillaribus vel e axillis defoliatis, solitariis, paucis, circiter 10 m longis, pilosis; floribus 5-meris, circiter 9 mm longis, pedicellis pilosis, sursum incrassatis, floribus subaequantibus, sepalis oblongis, intus glabris vel subglabris; petalis circiter 8 mm longis, sursum leviter ampliatis, oblongis, in partibus superioribus (ca. 3 vel 4 mm) laciniatis, laciniis circiter 15, tenuibus, 2 ad 2.5 mm longis, in partibus inferioribus (ca. 3 mm) ad margine et intus pilosis, extus glabris; staminibus circiter 15, filamentis 1.5 ad 2 mm longis, antheris scaberulis, anguste oblongis, 2.5 ad 3 mm longis, obtusis; ovario triloculari, dense piloso, stylis 3.5 mm longis, deorsum pilosis; disco circiter 3 mm diametro, dense piloso.

Mount Murud, No. 83, E. Mjöberg, October, 1922, from between the altitudes of 1900 and 2400 m.

A species well characterized by its conspicuously pistulate leaves and not closely allied to other representatives of the genus presenting this character that are known to me. Its true alliance seems to be with *Elaeocarpus wrayi* King of the Malay Peninsula.

MALVACEAE.

ABELMOSCHUS Medicus.

ABELMOSCHUS MOSCHATUS Medic., Merr. Enum. Born. Pl. (1921) 373.

Lundu, No. 230, at low altitudes. Pantropic, although a native of the Old World tropics.

STERCULIACEAE.

COMMERSONIA Forster.

COMMERSONIA BARTRAMIA (Linn.) Merr., Merr. Enum. Born. Pl. (1921) 378.

Lundu and near the foot of Mount Poi, Nos. 200, 237. Tropical Asia through Malaysia to Australia and Polynesia, more commonly known as *C. platyphylla* Anders. and *C. echinata* Forst.

DILLENIACEAE.

SAURAUIA Willdenow.

SAURAUIA PLANCHONII Hook. f., Merr. Enum. Born. Pl. (1921) 386.

Mount Penrissen, No. 219, s.n., one indicated as from an altitude of about 1000 m. the other from the foot of the mountain. Known only from Borneo.

OCHNACEAE.

NECKIA Korthals.

NECKIA SERKATA Korth., Merr. Enum. Born. Pl. (1921) 388.

Santubong, No. 161, at low altitudes, Sumatra and Borneo, although Ridley expresses the opinion that the Bornean form is distinct from Korthals' species and should be retained as *Neckia lancifolia* Hook. f.

THEACEAE.

SCHIMA Reinwardt.

SCHIMA NORONHAE Reinw., Merr. Enum. Born. Pl. (1921) 390.

Mount Poi, No. 194, altitude about 1500 m. Burma to Sumatra and Java.

VIOLACEAE.

RINOREA Anblet.

RINOREA ANGUIFERA (lour.) O. Kuntze; Merr. Enum. Born. Pl. (1921) 410.

Kuching, No. 170, at low altitudes. Indochina to the Malay Peninsula and Sumatra. more commonly known as *Alsodeia echinocarpa* Korth.

BEGONIACEAE.

BEGONIA Linnaeus.

BEGONIA BARAMENSIS sp. nov.

Planta erecta, glabra, ut videtur elata; foliis late peltatis perspicue inaequilateralibus, integris vel prope apicem obscurissime distanter denticulatis. inaequilateraliter oblongo-ovatis, tenuiter acuminatis, basi radiatim 8-nerviis, late rotundatis, haud cordatis, 16 ad 17 cm longis, 7 ad 11 cm latis, olivaceis, laevis, nitidis, membranaceis, subtus pallidioribus; petiolo 4 ad 7 cm longo; inflorescentiis circiter 8 cm longis. dichotomis, breviter (1.5 ad 2.5 cm) pedunculatis, paucifloris; floribus ♂ circiter 1.2 cm diametro, sepalis 2., reniformi-ovatis, circiter 6 mm longis, 7 diametro, sepalis 2, reniformi-ovatis, circiter 6 mm longis, 7 mm latis, rotundatis, basi truncato-subcordatis, 13 ad 15- nerviis; staminibus circiter 75. filamentis 1 mm longis, anthesis oblongo-obovoides, 0.7 mm longis; capsulis inaequaliter 3-alatis, cum alis 3 ad 5 cm longis et 3 ad 4 cm latis, basi rotundatis, apice truncatis vel oblique truncatis.

Sarawak, Upper Baram River, J. C. Moulton, 1920.

A species remarkable for its large, entire, acuminate, inaequilateral, oblongo-ovate, not at all cordate, widely peltate, leaves, the petiole being inserted 2 to 3 cm from the margin of the narrow side of the leaf, the broadly rounded basal part of the leaf being extended below the insertion of the petiole from 4 to 7 cm. The unusually large capsules are also characteristic, the elliptic capsule proper not exceeding 1.5 cm in length, but the membranaceous wings being extended both below and above the capsule, the larger one having a total length of from 3 to 5 cm and a width, in the upper part, of from 2 to 2.5 cm broadly rounded below, the upper margin straight, usually oblique; the two smaller wings are but about 2 cm long and 1 cm wide, acute at the base and rounded on the upper outer angles.

BEGONIA BORNEENSIS A.DC., Merr. Enum. Born. Pl. (1921, 414.

Mount Poi, No. 186, an imperfect specimen probably referable here. The species is known only from Borneo.

BEGONIA MURUDENSIS sp. nov.

Planta erecta, glabra, ut videtur elata; foliis chartaceis, in siccitate brunneo-purpureis, nitidis, laevis, valde inaequaliter lateralibus, lateraliter cordatis, distanter obscure dentatis, tenuiter acuminatis, 9 ad 14 cm longis, 4 ad 5.5 cm latis, basi radiatim 7 ad 9 nerviis nervis subtus valde perspicuis rectis; petiolo 2. ad 3.5 cm longo; stipulis oblongo-lanceolatis, acuminatis, circiter 2 cm longis; infructescentiis solitariis, in axillis superioribus, pedunculatis (pedunculo 2.5 cm longo) capsulis binis longissime (5 cm) pedunculatis ferentibus; floribus ♂ magnis, ut videtur paucis circiter 4 cm diametro, sepalis 2, orbiculari-ovatis, rotundatis, 2. cm diametro, basi late truncato-subcordatis; staminibus circiter 80, filamentis 1.5 ad 2.5 mm longis, antheris oblongis, apice rotundatis, deorsum leviter angustatis, 2 mm longis; capsulis cum alis circiter 3 cm longis et 4 cm latis, inaequaliter 3-alatis, obtriangularis, basi acutis, apice truncatis, angulis exterioribus rotundatis, alis binis majoribus circiter 1.5 cm latis, minoribus 1 cm latis.

Mount Murud, No. 119, E. Mjöberg, October, 1922, from altitudes between 1900 and 2400 m.

A species strongly marked by its unusually large staminate flowers, the sepals being about 2 cm in diameter, and its large obtriangular capsules which are gradually narrowed from the rounded outer corners of the wings to the cuneate base, two of the wings being larger than the other one but with the same general shape. The capsule proper is suborbicular in outline, apparently dehiscing close to the wings, the wings being extended both below and above it. The apex of the entire fruit is somewhat reentrant-truncate, not straight across the top. The torus bearing the stamens is about 5 mm long.

BEGONIA POLYGONOIDES Ridl., Merr. Enum. Born. Pl. (1921) 415.

Mount Matang, No. 203, altitude about 300 m. This species is known only from the locality indicated.

BEGONIA PROPINQUA Ridl.?, Merr. Enum. Born. Pl. (1921) 416.

Mount Poi, *s.n.* A single imperfect specimen perhaps referable to Ridley's species which is said to be common in Sarawak.

BEGONIA CONSANGUINEA sp. nov.

Species *B. isopterae* affinis, differt capsulis majoribus, apice truncatis, deorsum angustatis, alis latioribus, foliis minus inaequilateribus. Planta erecta, ut videtur elata, glabra vel partibus junioribus leviter pubescentibus; foliis inaequilateralibus, oblongis ad oblongo-obovatis, membranaceis, glabris, nitidis, 12 ad 18 cm longis, 4.5 ad 8 cm latis, tenuiter subcaudato-acuminatis, basi inaequilateralibus acutis ad rotundatis vel leviter oblique cordatis, margine deorsum integris, sursum irregulariter dentatis vel denticulatis; petiolo 5 ad 15 mm longo; stipulis lanceolatis, tenuiter acuminatis, falcatis, 1.5 ad 2 cm longis; inflorescentiis circiter 15 cm longis; pedunculatis, basi capsulis binis ferentibus, laxis, floribus numerosis, bracteolis minutis, deciduis; floribus ♂ circiter 1 cm diametro, pedicellis ad 5 mm longis, sepalis ellipticis ad orbiculari-ellipticis, tenuiter 5 vel 7-nerviis, rotundatis, 5 mm longis; staminibus 35 ad 40, filamentis 0.5 mm longis, antheris oblongo-ellipsoideis ad anguste obovoideis, 1 mm longis; capsulis cum alis 2.5 cm longis et latis, subaequaliter 3-alatis, apice truncatis, deorsum leviter angustatis, rotundatis, pedicellis circiter 1.5 cm longis.

Sarawak, Sadong, Native collector 2560 *Bur. Sci.*, Lundu, E. Mjöberg, 329; without locality, Foxworthy, 348; Mount Penrissen, Mjöberg 222 (type); Mount Poi, Mjöberg 151, the latter with shorter inflorescences and slightly larger flowers than the type.

This species is very similar to *Begonia isoptera* Dryander of the Malay Peninsula, Sumatra, and Java, but its leaves are larger and less inequilateral, while its capsules are distinctly larger and very different in shape, being exactly truncate at the top, not rounded, the outer angles slightly rounded.

BEGONIA SPELUNCAE Ridl., Merr. Enum. Born. Pl. (1921) 416.

Bidi Caves, No. 177, the type locality. A species known only from this place.

BEGONIA sp.

Salak, No. 178, a very fragmentary specimen.

BEGONIA sp.

Mount Poi, *s.n.* A species entirely different from any of those at present known from Borneo and probably representing an undescribed species. More complete material is essential. It is apparently a scandent species, the younger parts and long petioles being supplied with scattered, slender, spreading, elongated hairs.

MYRTACEAE.

RHODAMNIA Jack.

RHODAMNIA CINEREA Jack. Merr. Enum. Born. Pl. (1921) 423.

Mount Poi, No. 159. Apparently common in Borneo, extending from Burma through Malaysia to tropical Australia.

XANTHOMYRTUS Diels.

XANTHOMYRTUS TAXIFOLIA (Ridl.) comb. nov.

MYRTUS TAXIFOLIA Ridl. in Kew Bull. (1914) 209, Merr. Enum. Born. Pl. (1921) 424.

Mount Poi, No. 179, altitude about 1700 m. Known only from this mountain; Gunong Rumput, the type locality, is one of the peaks of Mount Poi.

XANTHOMYRTUS MOULTONII (Merr.) comb. nov.

MYRTUS MOULTONII Merr. in Journ. Straits Branch Roy. As. Soc. 86 (1922) 337.

Sarawak, Upper Baram, Gunong Temabok, Moulton 6747, altitude about 2100 m. Endemic.

XANTHOMYRTUS FLAVIDA (Stapf.) Diels in Engl. Bot. Jahrb. 57 (1922) 366.

MYRTUS FLAVIDA Stapf. in Hook. Ic. IV 3 (1894) t. 229).

British North Borneo, Mount Kinabalu, Haviland 1155, Gibbs 4284, Clemens 10525. The species endemic, the variety *glabrescens* (Gibbs) Diels (*Myrtus flavida* Stapf. var. *glabrescens* Gibbs) in New Guinea.

The synonymy of *Xanthomyrtus flavida* is given primarily to make Diels' transfer valid. He enumerates the species simply as "*Xanthomyrtus flavida* Stapf. var. *glabrescens* Gibbs in N.W. New Guinea 1917, 150." Neither the species nor the variety were so published, both being placed under *Myrtus*.

Diels has with good reasons proposed the genus *Xanthomyrtus* as distinct from *Myrtus*, for a number of Papuan species, including also *Myrtus flavida* Stapf. of Borneo, one species in New Caledonia, and apparently one in north-eastern Australia; to these must be added two Philippine species *Eugenia diplycosifolia* C.B. Rob., and *Eugenia aurea* Elmer.

EUGENIA Micheli.

EUGENIA. spp.

Three species are represented by incomplete specimens, all from Mount Poi, No. 152, the others single specimens, without numbers. I have not been able to refer any of these to described forms.

LEPTOSPERMUM Forster.

LEPTOSPERMUM JAVANICUM Blume, Merr. Enum. Born. Pl. (1921) 436.

Mounts Poi and Murud, No. 92, s.n., from altitudes above 1500 m. Indochina to Sumatra, Java, and Celebes.

BAECKEA Linnaeus.

BAECKEA TAXIFOLIA sp. nov. § *Harmogia*.

Frutex glaberrimus, ramis teretibus, ramulis rigidis, circiter 1.5 mm diametro, cicatricibus multis instructis; foliis numerosis, rigidis, curvatis, confertis, eglandulosis, 6 ad 8 mm longis, circiter 1 mm latis, obtusis, deorsum leviter angustatis; floribus axillaribus, solitariis, sessilibus, circiter 5 mm longis, 5 ad 6 mm diametro, calycis tubo infundibuliformi, 3 mm diametro, lobis triangulari-acutis, 1.2 mm longis, glandulis paucis instructis; petalis 2 ad 2.2 mm longis, ellipticis ad elliptico-oblongis, rotundatis, glandulis paucis magnis instructis; staminibus 15, filamentis vix 1 mm longis; ovario triloculare.

ARGOSTEMMA LANCEOLATUM Valetton, Merr. Enum. Born. Pl. (1921) 549.

Near Kuching, No. 216, June 30. Known only from Borneo.

ARGOSTEMMA MJÖBERGII sp. nov.

Planta glabra (inflorescentiis exceptis) simplex, caulis circiter 2.5 mm diametro, deorsum prostratis, radicanibus, sursum erectis, 30 ad 45 cm longis; foliis 8 vel 10, in paribus aequalibus, in siccitate nigris, plerumque albido-punctulatis, oblongo-ovatis, chartaceis, acute acuminatis, basi plerumque rotundatis, 6 ad 9 cm longis, 2 ad 3.5 cm latis, nervis utrinque circiter 9, supra obsolete vel subobsolete, subtus tenuibus, distinctis; petiolo 1 ad 2 cm longo; stipulis circiter 1 cm longis, lanceolatis; inflorescentiis terminalibus, umbellatis, longe (circiter 9 cm) pedunculatis, circiter 10-floris, pedunculo glabro, pedicellis circiter 1.5 cm longis, leviter pubescentibus, bracteolis lanceolatis, acuminatis, glabris, circiter 5 mm longis; floribus circiter 1.5 cm diametro, ut videtur albidis, calyce leviter pubescenti, lobis 5, oblongo-ovatis, acutis vel acuminatis, circiter 1.5 mm longis; petalis lanceolatis, circiter 7 mm longis.

Mount Poi, E. Mjöberg, *s.n.*, altitude between 1200 and 1700 m.

A species belonging in the group with *Argostemma montanum* Blume but entirely glabrous except for the slightly pubescent pedicels and calyces.

ARGOSTEMMA MURUDENSE sp. nov.

Herba simplex vel parce ramosa, caulis foliisque utrinque perspicue crispato-ciliatis; caulis 10 ad 15 cm longis, deorsum prostratis, radicanibus, sursum erectis; foliis 6 ad 10, in paribus subaequalibus, ovatis ad late elliptico-ovatis, chartaceis, olivaceo-brunneis, acutis vel obtusis, basi rotundatis 1.5 ad 3 cm longis, 1 ad 1.5 latis, nervis utrinque 6 vel 7, patulis, tenuibus, supra obsolete; petiolo 4 ad 8 mm longo; stipulis circiter 3 mm longis, subellipticis, obtusis, intus glabris, extus dense villosis; inflorescentiis terminalibus, tenuiter pedunculatis, pedunculo glabro, circiter 2 cm longo; floribus umbellatis, umbellulis circiter 5-floris, pedicellis pubescentibus, 4 mm longis, bracteolis minutis; calyce pubescenti, lobis ovatis, acutis, circiter 1 mm longis; petalis elliptico-ovatis, acutis, circiter 6.5 mm longis.

Mount Murud, Nos. 82 (type), 88, E. Mjöberg, between the altitudes of 1900 and 2400 m., October, 1922.

A species characterized by its crisped indumentum which is conspicuous on both surfaces of the small, subequal leaves, and on the stems, and petioles.

ARGOSTEMMA SALICIFOLIUM Ridl., Merr. Enum. Born. Pl. (1921) 550.

Mount Matang, Nos. 205, 206, July, altitude about 300 m. Known only from this region, the type locality.

ARGOSTEMMA spp.

Mount Poi, two species without number, one somewhat approximating *A. kinabaluense* Wernh. The material is insufficient.

TARENNA Gaertner.

TARENNA FRAGRANS (Blume) Koord. and Val., Merr. Enum. Born. Pl. (1921) 561.

Near Kuching, No. 214. Malay Peninsula and Archipelago extending to Palawan in the Philippines.

GARDENIA Ellis.

GARDENIA sp.

Near Kuching, s.n., a single specimen.

PAVETTA Linnaeus.

PAVETTA INDICA Linn., Merr. Enum. Born. Pl. (1921) 570.

Mount Poi, No. 150, near the foot of the mountain. India to southern China through Malavsia to tropical Australia.

IXORA Linnaeus.

IXORA MjöBERGII sp. nov.

Frutex (vel arbor parva?) glaber, ramulis teretibus, 2 mm diametro; foliis chartaceis, oblongis, sessilibus, basi late cordatis, apice obtusis ad obtuse acuminatis, 15 ad 20 cm longis, 5 ad 7 cm latis, olivaceis, nervis lateralibus utrinque circiter 14, perspicuis; stipulis 4 ad 5 mm longis, basi late ovatis, abrupte caudato-apiculatis; inflorescentiis terminalibus, erectis, pedunculatis (pedunculo 4 cm longo), circiter 10 cm longis, 10 ad 12 cm latis, trichotomis, ramis primariis paucis, circiter 4 cm longis, bracteis lanceolatis, acuminatis, circiter 5 mm longis, bracteolis minutis, vix 0.5 mm longis; floribus 3.5 ad 4 cm longis, ut videtur rubris, plerumque in ramulis ultimis in triadibus dispositis, interioribus sessilibus, lateralibus breviter (0.5 ad 2.5 mm) pedicellatis; calyce subturbinate, circiter 1.5 mm longo, margine minute lobulato, lobulis vix 0.3 mm longis; corollae tubo circiter 3.5 cm longo, lobis 4, patulis, ellipticis, rotundatis, circiter 8 mm longis.

Lundu, Mount Gadin, No. 226, E. Mjöberg, May 24, altitude not indicated but apparently from low elevations.

A species belonging in the general group with *Ixora fulgens* Roxb. and *I. lobhii* Lond., but with thinner leaves which are sessile and broadly rounded-cordate at the base.

IXORA SESSILILIMBA sp. nov.

Frutex (vel arbor parva?) glaber, ramis teretibus, ramulis plus minusve compressis, circiter 3 mm diametro; foliis coriaceis vel subcoriaceis, sessilis, late oblanceolatis ad anguste oblongo-obovatis, perspicue acute acuminatis, deorsum angustatis, basi abrupte rotundatis 1 ad 2.5 cm latis, in siccitate olivaceis, subtus pallidioribus, utrinque nitidis, 19 ad 24 cm longis, 6 ad 9 cm latis, nervis primariis utrinque circiter 16, perspicuis, patulis, arcuato-anastomosantibus; stipulis circiter 1 cm longis, basi latissime ovatis, abrupte contractis, longissime (circiter 7 mm) acuminatis; cymis terminalibus,

breviter vel vix pedunculatis, dense multifloris, 8 cm longis, circiter 15 cm latis, ramis primariis paucis, inferioribus patulis, circiter 3 cm longis, bracteis rigidis, oblongo-lanceolatis, acutis vel acuminatis, 2.5 ad 4 mm longis; floribus circiter 4 cm longis, ut videtur rubris, in ramulis ultimis in triadibus dispositis, interioribus sessilibus, lateralibus breviter (1.5 ad 2.5 mm) crasse pedicellatis, bracteolis oblongo-ovatis, circiter 1 mm longis; calyce circiter 3 mm longo, subinfundibuliformi, lobis 4, late ovatis, obtusis, vix 1 mm longis; corollae tubo 4 cm longo, lobis patulis, ellipticis, rotundatis, 1.5 cm longis, circiter 7 mm latis.

Mount Murud, No. 116, E. Mjöberg, October, 1922, indicated altitude 1900 and 2400 m.

Mount Murud, Nos. 84, 111, October, 1922, on naked exposed ledges at the summit, altitude 2400 m.

A species in aspect distinctly different from *Baeckea frutescens* Linn., with rigid branchlets, stouter, curved, obtuse, shorter, eglandular leaves and larger sessile flowers. The petals are attached by broad bases, not narrowed below, and the stamens are in groups of threes opposite each petal, not in pairs, the inner filament of each group being somewhat longer than the two lateral ones. *Baeckea frutescens* Linn., as it occurs in southeastern China and in Borneo, is a low-altitude species, although in the Malay Peninsula it occurs on the higher mountains.

ARALIACEAE.

SCHEFFLERA Forster.

SCHEFFLERA REMOTISERRATA sp. nov. § *Heptapleurum*.

Frutex scandens, glaber, ramulis circiter 4 mm diametro; foliis longe (ca. 12 cm) petiolatis, 5-foliolatis, foliolis lanceolatis, rectis vel falcatis, chartaceis ad subcoriacis, 8 ad 12 cm longis, 1.4 ad 2 cm latis, breviter (ca. 1 cm) petiolulatis, utrinque subaequaliter angustatis, basi cuneatis, apice tenuiter caudato-acuminatis, deorsum integris sursum utrinque dentibus 1 ad 3 distantibus parvis instructis; nervis lateralibus distantibus, paucis, indistinctis; inflorescentiis terminalibus, longe (ca. 9 cm) pedunculatis, furcatis, ramis primariis binis, pedunculo aequantibus, ramulis secundariis umbellatis, paucis, 2 ad 3 cm longis; floribus paucis, 6-meris, umbellatis, umbellulis 3 and

5 floris, pedicellis 5 ad 6 mm longis; calyce turbinato, 2 ad 2.5 mm diametro; petalis 6, oblongo-ovatis, acutis, 2.8 mm longis; stylo 0.

Mount Poi, *s.n.*, at or above an altitude of 1500 m.

A species strongly characterized by its very lax, few elongated, dichotomous inflorescences which attain a length of 25 cm, as well as by its narrowly lanceolate, caudate-acuminate, very sparingly toothed leaflets. Rarely the leaflets are entire showing no signs of teeth, the few teeth when present being confined to the upper one-third of the leaflet.

SCHEFFLERA MJÖBERG sp. nov. § *Heptapleurum*.

Frutex, partibus junioribus et inflorescentiis et subtus foliis pilosis, ramulis 6 ad 9 mm diametro; foliis 1-foliatis, foliolis crasse coriaceis, ellipticis, integris, circiter 18 cm longis et 11 cm latis, vasi late rotundatis, apice rotundatis vel brevissime abrupteque acuminatis, margine valde revolutis, supra glabris, olivaceis, subtus plus minusve pilosis; nervis lateralibus utrinque circiter 12, subtus distinctis; petiolo crasso, circiter 2 cm longo; inflorescentiis terminalibus, brevissime crassequae pedunculatis, pedunculo vix 1 cm longo, ramis primariis 3, rigidis, circiter 10 cm longis, omnibus partibus pilosis, ramulis secundariis racemose dispositis, paucis, oppositis vel 3-verticillatis, 2 ad 2.5 cm longis, floribus in ramulis secundariis umbellatim dispositis, umbellulis 5 ad 9-floris; floribus 6-meris, calycis tubo ovoideo-turbinato, 3 mm longo, truncato, haud angulato, plus minusve stellato-pubescenti; ovario 6-loculari, stylo cylindrico, crasso, circiter 1 mm longo.

Mount Murud, No. 117, E. Mjöberg, October, 1922, at or above an altitude of 1900 m.

Among the few species of this genus with simple leaves the present one is strongly characterized by its indumentum, and its entire, elliptic, thickly coriaceous leaves, their margins strongly revolute. In spite of its simple leaves it is clearly a representative of this genus.

SCHEFFLERA sp.

Mount Poi, *s.n.*, a very fragmentary specimen with only portions of a detached inflorescence.

MELASTOMATACEAE.

ALLOMORPHIA Blume.

ALLOMORPHIA sp.?

Mount Matang, *s.n.*, altitude 300 m. A very characteristic plant with long narrow leaves probably belonging in this genus. There are no complete flowers available.

DRIESSENIA Korthals.

DRIESSENIA CILIATA Becc., Merr. Enum. Born. Pl. (1921) 439.
Lundu, *s.n.* A species known only from Sarawak.

DRIESSENIA AXANTHA Korth., Merr. l.c.

Mount Poi, No. 201, near the foot of the mountain. Previously reported only from Dutch Borneo.

PHYLLAGATHIS Blume.

PHYLLAGATHIS HIRSUTA Cogn., Merr. Enum. Born. Pl. (1921) 440.

Mount Poi, No. 157, *s.n.*, altitude indicated as above 1400 m. The specimens, which are rather incomplete, agree fairly well with Cogniaux's description and figure, although the flowers appear to be 5-merous rather than 4-merous.

ANERINCLEISTUS Korthals.

ANERINCLEISTUS BECCARII Cogn., Merr. Enum. Born. Pl. (1921) 441.

Mount Poi and Santubong, Nos. 140, 156, 163, at low altitudes. A species known only from Borneo.

SONERILA Roxburgh.

SONERILA HETEROPHYLLA Jack in Malay Miscel. 2, part 7 (1822) 16; Cogn. in DC. Monog. Phan. 7 (1891) 510.

Kuching and Mount Penrissen, Nos. 168, 214, 220, at low altitudes. Sumatra and Java, not previously recorded from Borneo.

SONERILA MACRANTHA sp. nov. § *Genuinae, Caulescentes.*

Suffrutex erectus, ramosus, circiter 30 cm altus, inflorescentiis pilis capitatis paucis instructis exceptis glaber, ramis teretibus, pallidis, laevis, ad 2 mm diametro; foliis in paribus subaequalibus, membranaceis, olivaceis vel purpureis, ovatis ad oblongo-ovatis, 2 ad 3 cm longis, 1 ad 2 cm latis, margine deorsum integris, sursum argute serratis, dentibus lanceolatis, acuminatis, adscendentibus, utrinque 8 and 10, apice acutis vel acute acuminatis, basi acutis ad rotundatis, 3-nerviis; petiolo tenui, 1 ad 3 cm longo; inflorescentiis terminalibus, pedunculatis, pilis paucis patulis capitato-glandulosis 1 mm longis instructis, 6 ad 8 cm longis, paucifloris; calyce circiter 7 mm longo, breviter lobato; petalis 3, ellipticis, acutis vel breviter acuminatis, circiter 2 cm longis et 12 mm latis; antheris lanceolatis, acutis vel breviter acuminatis, circiter 7 mm longis; fructibus 1 cm longis, circiter 7 mm diametro, deorsum angustatis.

Mount Murud, Nos. 74, 75 (type), 76-78, E. Mjöberg, October, 1922, from altitudes between 1900 and 2400 m.

A species belonging in the group with *Sonerila impatiens* Becc., characterized by its very large flowers.

SONERILA sp. ?

Mount Murud, No. 77, a single imperfect specimen.

SONERILA sp.

Mount Dulit, No. 13. There are no complete flowers, the specimen being imperfect.

ANPLECTRUM A. Gray.

ANPLECTRUM CYANOCARPUM (Blume) Triana, Merr. Enum. Born. Pl. (1921) 443.

Mount Poi, No. 141, a fruiting specimen from near the foot of the mountain. Sumatra and Java.

ANPLECTRUM HOMOEANDRUM Stapf, Merr. Enum. Born. Pl. (1921) 443.

Mount Murud, No. 96, altitude above 1900 m. A species previously known only from Mount Kinabalu unless the Philippine *Medinilla ramiflora* Merr. proves to be conspecific. It is doubtful whether the present species should be retained in *Anplectrum* or transferred to *Medinilla*.

POGONANTHERA Blume.

POGONANTHERA PULVERULENTA Blume, Merr. Enum. Born. Pl. (1921) 446.

Kuching, No. 167, at low altitudes. Malay Peninsula, Sumatra and Java.

MEDINILLA Gaudichaud.

MEDINILLA HASSELTII Blume in Flora 14 (1831) 513; Cogn. in DC. Monog. Phan. 7 (1891) 586.

Mount Dulit, No. 10, altitude about 1200 m. Malay Peninsula to Sumatra, Java, Basilan, and Panay.

MEDINILLA sp.

Mount Poi, No. 158, an imperfect specimen with detached inflorescences and no complete flowers.

PTERNANDRA Jack.

PTERNANDRA LATIFOLIA (Blume) Triana, Merr. Enum. Born. Pl. (1921) 452.

Kuching, *s.n.*, at low altitudes. Malay Peninsula, Penang, Bangka.

ERICACEAE.

RHODODENDRON Linnaeus.

RHODODENDRON CUNEIFOLIUM Stapf var. *subspathulatum* Ridl., Merr. Enum. Born. Pl. (1921) 461.

Mount Murud, No. 98, above an altitude of 1900 m. Known only from Borneo.

RHODODENDRON JASMINIFLORUM Hook. in Curtis' Bot. Mag. 76 (1850) t. 4524.

Mount Murud, Nos. 103, 104, from between the altitudes of 1900 and 2400 m. Not previously reported from Borneo, occurring on the higher mountains in the Malay Peninsula, and Sumatra, and is also reported from Java. The Bornean form has entirely sessile leaves.

RHODODENDRON MJÖBERGII sp. nov.

Frutex vel arbor parva, perspicue castaneo-lepidotis; ramulis teretibus, 3 mm diametro, lepidotis; foliis oppositis, sessilibus vel brevissime pedicellatis, coriaceis, oblongo-ovatis ad oblongo-ellipticis, breviter acuminatis, basi late rotundatis, cordatis, supra parce subtus densissime castaneo-lepidotis, 5 ad 8 cm longis, 3 ad 4 cm latis, costa supra impressa, subtus valde prominulis, nervis lateralibus utrinque circiter 6, patulis, tenuibus, arcuato-anastomosantibus, indistinctis; floribus terminalibus, umbellatis, circiter 10, ut videtur aurantiacis, circiter 2.4 cm longis, pedicellis densissime castaneo-lepidotis; corollae tubo cylindrico, 1.6 cm longo, 4 mm diametro, glabro, lobis obovatis, rotundatis, 8 mm longis; staminibus 10, filamentis inaequalibus, deorsum leviter pubescentibus, sursum glabris; antheris oblongis, 2 mm longis; ovario cylindrico, densissime lepidoto, 6 mm longo; stylo 5 mm longo, deorsum lepidoto, sursum glabri.

Mount Murud, No. 105, E. Mjöberg, October, 1922, from between the altitudes of 1900 and 2400 m.

A species belonging in the general group with *Rhododendron malayanum* Jack, but with totally different vegetative characters, easily recognisable by its sessile cordate leaves.

RHODODENDRON MURUDENSE sp. nov.

Frutex glaberrimus, ramulis teretibus, in siccitate atris, 4 mm diametro; foliis alternis, crassissime coriaceis, oblongis ad oblongo-ellipticis, 13 ad 16 cm longis, 4.5 ad 7 cm latis, obtusis, basi acutis, nervis primariis utrinque circiter 15, subtus distinctis, arcuato-anastomosantibus; petiolo crasso, circiter 1 cm longo; floribus numerosis (circiter 20), 4 cm longis, subcampanulato-infundibuliformibus, tubo 1.6 cm longo, lobis late ovatis, rotundatis, 2.5 cm longis, pedicellis glabris, 2.5 cm longis; staminibus 10, filamentis inaequalibus, deorsum dense albido-lanatis, sursum glabris, antheris ellipsoideis, 3 ad 3.5 mm longis; ovario cylindrico, glabro, 4 mm longo, stylo 3 mm longo.

Mount Murud, No. 106, E. Mjöberg, from above an altitude of 1900 m. October, 1922.

This does not appear to be referable to any of the described Bornean forms, and comes closest to *Rhododendron javanicum* Blume, from which it differs notably in its short styles. The flowers appear to be red in colour.

RHODODENDRON VARIOLOSUM Becc., Merr. Enum. Born. Pl. (1921) 463.

Mount Poi, s.n., altitude about 1500 m. Known only from Mount Poi, the type locality, and apparently closely allied to *Rhododendron malayanum* Jack.

VACCINIUM Linnaeus.

VACCINIUM PACHYDERMUM Stapf, Merr. Enum. Born. Pl. (1921) 467.

Mount Murud, No. 108, from altitudes between 1900 and 2400 m. Previously known only from Mount Kinabalu.

VACCINIUM sp.

Mount Murud, No. 110. A very characteristic species with caudate-acuminate leaves and lax racemes, probably undescribed, but the material available insufficient.

VACCINIUM sp.

Mount Murud, No. 109, a sterile specimen.

MYRSINACEAE.

ARDISIA Swartz

ARDISIA HUMILIS Vahl, Merr. Enum. Born. Pl. (1921) 470.

Mount Poi, No. 153, near the foot of the mountain. India to Malaysia as interpreted by Mez. The proper name for this form is doubtful. It may prove to be *A. littoralis* Andr.

ARDISIA LEPIDOTULA Merr., Merr. Enum. Born. Pl. (1921) 471.

Mount Poi, No. 185, at or above an altitude of 1500 m. The type locality.

ARDISIA MJÖBERGII sp. nov. § *Stylardisia*.

Frutex vel arbor parva, inflorescentiis dense minute castaneo-furfuraceis subtus foliis dense castaneo-lepidotulis exceptis glaber, ramis teretibus, glabris; foliis coriaceis vel subcoriaceis, integris, oblongis ad oblongo-lanceolatis, 5 ad 10 cm longis, 2 ad 3 cm latis, laevis, opacis, in siccitate brunneo-olivaceis, utrinque subaequaliter angustatis, basi acutis, apice obtuse acuminatis, subtus parce punctato-

glandulosis; nervis primariis utrinque circiter 16, tenuibus, subtus distinctis; petiolo 3 ad 7 mm longo; inflorescentiis terminalibus, tripinnatim paniculatis, circiter 12 cm longis, multifloris, minute castaneo-furfuraceis, ramis primariis paucis, floribus in ramulis ultimis umbellatim dispositis, umbellis 5- ad 8-floris; pedicellis circiter 3 mm longis, tenuibus; sepalis oblongo-ovatis, acutis vel obtusis, 1.5 mm longis, haud imbricatis, margine ciliatis glandulis paucis (2 ad 5) magnis praeditis; petalis ovatis ad oblongo-ovatis, acuminatis, 2.5 ad 3 mm longis, eglandulosis; antheris late ovatis, 1.5 mm longis, dorso haud punctatis; ovarium glabrum.

Mount Murud, No. 80, E. Mjöberg, October, 1922, between the altitudes of 1900 and 24 m.

A species probably belonging in *Stylardisia* rather than in *Acrardisia*, although in but few of the flowers are the styles exerted before anthesis. Its alliance is with *Ardisia synneura* Scheff. but it has smaller leaves, ample many flowered inflorescences, and prominently glandular-punctate sepals.

ARDISIA OBOVATIFOLIA sp. nov. § *Akosmos*.

Frutex, inflorescentiis exceptis glaber, ramulis teretibus, 5 mm diametro; foliis plus minusve confertis, obovatis, integerrimis, apice latissime rotundatis interdum late acutis, deorsum contractis, basi cuneatis, subcoriaceis, olivaceis, brevissime petiolatis, circiter 15 cm longis et 8 cm latis, utrinque glabris, margine arete revolutis, nervis utrinque circiter 15, patulis, subtus distinctis; petiolo crasso, vix 5 mm longo; inflorescentiis axillaribus, minute castaneo-puberulis, bipinnatim paniculatis, circiter 10 cm longis, ramis primariis paucis, patulis, inferioribus circiter 2 cm longis, floribus umbellatim dispositis, umbellis 5- ad 8-floris, pedicellis sursum incrassatis, circiter 9 mm longis; sepalis apertis, ovatis, obtusis ad acutis, 1 mm longis, margine ciliatis, glandulis magnis paucis praeditis; petalis lanceolatis, acuminatis, 4 ad 5 mm longis, parce glandulosis, glandulis magnis; antheris lanceolatis, acuminatis, 2.5 ad 3 mm longis, dorso eglandulosis; ovarium glabrum.

Mount Murud, No. 79, E. Mjöberg, October, 1922, above an altitude of 1900 m.

A species strongly characterized by its obovate leaves which are usually broadly rounded or sometimes broadly acute at their apices. The margins are entire and narrowly revolute. In none of the flowers examined are the styles exerted before anthesis; after anthesis they are 3 to 5 mm in length.

ARDISIA sp.

Mount Poi, No. 184, an imperfect specimen in the section *Tinopsis*.

LABISIA Lindley.

LABISIA PUMILA (Blume) Benth. & Hook. f. var. *lanceolata* (Scheff.) Mez. Merr. Enum. Born. Pl. (1921) 473.

Near Kuching, No. 213, at low altitudes. Indo-China to Malaysia.

EMBELIA Burman f.

EMBELIA RIBES Burm. f., Merr. Enum. Born. Pl. (1921) 476.

Kuching, No. 164, at low altitudes. India to southern China, Java, Borneo, and Sumatra.

Symplocaceae.

SYMPLOCOS Jacquin.

SYMPLOCOS DOLICHANTHA sp. nov. § *Cordyloblaste*.

Arbor parva, ramulis junioribus inflorescentiisque cinereo-pubescentibus exceptis glabra, ramulis pallidis circiter 2.5 mm diametro; foliis chartaceis, olivaceis, nitidis, integris, oblongo-ellipticis, circiter 16 cm longis et 7 cm latis, acuminatis, basi cuneatis, costa supra impressa, nervis primariis utrinque circiter 10, subtus perspicuis, arcuato-anastomosantibus, reticulis laxis, distinctis; petiolo crasso, circiter 6 mm longo; inflorescentiis in axillis superioribus, brevibus, paucifloris; floribus paucis, 4 ad 4.3 cm longis, cylindraceis, calycis tubo circiter 5 mm longo, lobis ovatis, obtusis, 3 mm longis, dense adpresse pubescentibus; petalis extus dense cinereo-pubescentibus, circiter 4 mm latis, sursum liberis, deorsum eum tubo connatis: tubo stamineo circiter 3.5 cm longo, cylindrico, glabro, filamentis (partibus liberis) 1 ad 3 mm longis numerosissimis; ovario 3-loculari

Mount Murud, No. 120, E. Mjöberg, between the altitudes of 1900 and 2400 m., October, 1922.

A very strongly marked species of the small section *Cordyloblaste*, among all the described species at once distinguished by its large leaves and unusually long flowers. The very numerous anthers cover the upper 1.5 to 2 cm of the tube and terminate its short free segments.

SYMPLOCOS MJÖBERGII sp. nov. § *Bobua*, *Lodhra*.

Arbor parva, ramulis et inflorescentiis et foliis subtus ad costa nervisque longe ferrugineo-pilosis, ramulis circiter 4 mm diametro; foliis chartaceis vel subcoriaceis, oblongis integris, supra viridibus, nitidis, glabris, perspicue acuminatis, basi late rotundatis et obscure cordatis, 9 ad 10 cm longis, 4 cm latis, costa supra impressa, margine dense ferrugineo-villosis; nervis primariis utrinque circiter 9, supra impressis, subtus valde perspicuis, arcuato-anastomosantibus, laxe reticulatis; petiolo dense ferrugineo-villoso, vix 2 mm longo; inflorescentiis axillaribus, paniculatis vel minoribus racemosis, 2.5 ad 6 cm longis, dense ferrugineo-villosis, ramis primariis paucis, usque ad 2 cm longis; floribus circiter 9 mm diametro, calycis tubo villosa, 2 mm longo, lobis patulis, elliptico-ovatis, 2 mm longis, pubescentibus; petalis 5, liberis, ellipticis, glabris, 5 mm longis; staminibus numerosis, filamentis liberis, glabris, 3 ad 5 mm longis; ovario 3-loculari.

Mount Murud, No. 97, E. Mjöberg, between the altitudes of 1900 and 2400 m., October, 1922.

A very strongly marked species, well characterized by its copious, long, ferruginous indumentum; its rounded-cordate, acuminate, prominently nerved leaves; and by its axillary panicles which are at times about one half as long as the leaves.

SYMPLOCOS RUBIGINOSA Wall., Merr. Enum. Born. Pl. (1921) 488.

Mount Poi, No. 180. The specimen is imperfect but is probably referable here, although the inflorescences are only slightly longer than the petioles. Malay Peninsula to Sumatra and Borneo.

LOGANIACEAE.

FAGRAEA Thunberg.

FAGRAEA OBOVATA Wall. in Roxb. Fl. Ind. 2 (1824) 33.

Mount Murud, *No. 94*, at or above an altitude of 1900 m. An exceedingly variable species of wide distribution in the Indo-Malaysian region.

APOCYNACEAE.

LEUCONOTIS Jack.

LEUCONOTIS sp.

Mount Murud, *No. 124*, from above an altitude of 1900 m. A single imperfect specimen with no mature flowers.

ALSTONIA R. Brown.

ALSTONIA ANGUSTIFOLIA Wall., Merr. Enum. Born. Pl. (1921) 497.

Near Kuching, *No. 210*, at low altitudes. Malay Peninsula.

ALYXIA R. Brown.

ALYXIA LUCIDA Wall., Merr. Enum. Born. Pl. (1921) 499.

Santubong, *s.n.*, and Mount Poi, *No. 181* (var. *meiantha* Stapf). Malay Peninsula to Sumatra and the Philippines.

ASCLEPIADACEAE.

HOYA R. Brown.

HOYA sp.

Mount Pentrissen, *No. 217*, altitude about 1300 m.

DISCHIDIA R. Brown.

DISCHIDIA MICROPHYLLA Schltr., Merr. Enum. Born. Pl. (1921) 505.

Kuching, *No. 169*, at low altitudes. Previously known only from Dutch Borneo.

CONVOLVULACEAE.

MERREMIA Dennstaedt.

MERREMIA UMBELLATA (Linn.) Hallier f. var. *orientalis* Hallier f., Merr. Enum. Born. Pl. (1921) 509.

Lundu, No. 232. Pantropic in distribution.

VERBENACEAE.

LANTANA Linnaeus.

LANTANA CAMARA Linn., Merr. Enum. Born. Pl. (1921) 511.

Kuching, *s.n.* Pantropic; of American origin.

VITEX Linnaeus.

VITEX NEGUNDO Linn., Merr. Enum. Born. Pl. (1921) 514.

Lundu, No. 234, April, 1924. Widely distributed in the Old World tropics.

CLERODENDRON Linnaeus.

CLERODENDRON FISTULOSUM Becc., Merr. Enum. Born. Pl. (1921) 516.

Near Kuching, No. 208. Known only from Borneo.

CLERODENDRON INFORTUNATUM Linn.? Merr. op. cit. 517.

Near Kuching, No. 173. India through Malaysia to the Moluccas.

LABIATAE.

COLEUS Loureiro.

COLEUS sp.

Lundu, *s.n.*, a single fragmentary specimen insufficient for further identification.

SCROPHULARIACEAE.

LINDERNIA Allioni.

LINDERNIA LATIFOLIA (Blume) Koord. Exkursionsfl. Java 3 (1912) 179.

Diceros latifolius Blume Bijdr. (1826) 752.

Vandellia latifolia Benth. in DC. Prodr. 10 (1846) 415.

Mount Matang, No. 202, July 7, 1924, altitude about 300 m.

A species previously known only from Java and of which a no more complete description has been published than Blume's original very short and imperfect one. From this description, and Koorders' note on Blume's type, it is clear that the specimen cited above really represents this species, which, as Koorders notes, is widely different from the other species of the genus in its habit; it is, nevertheless, a true *Lindernia*. The largest leaves on the specimen cited are 12 cm long and 4.5 cm wide, distinctly larger than in Blume's type, which has leaves 6 to 8 cm long.

GESNERIACEAE.

DIDYMOCARPUS Wallich.

Didymocarpus crinita Jack, Merr. Enum. Born. Pl. (1921) 527.

Mount Poi, No. 191, altitude about 1400 m. Malay Peninsula and Sumatra.

Var. *EXASPERATA* Clarke, Merr. l.c.

Mount Matang, *s.n.*, altitude about 300 m. Borneo.

DIDYMOCARPUS LONGIPETIOLATUS sp. nov. § *Loxocarpus*.

Subcaulis, foliis confertis, longe (2 ad 7 cm) petiolatis, ovatis ad elliptico-ovatis, chartaceis vel subcoriaceis, 3 ad 5.5 cm longis, 2 ad 3.3 cm latis, basi late rotundatis, interdum leviter cordatis, apice acutis, margine obscure crenulato-serrulatis, supra densissime adpresse pallide villosis, subtus praesertim ad costa nervisque densissime pallide villosis, nervis primariis utrinque 4 ad 6, subtus perspicuis; pedunculis tenuibus, adpresse albido-villosis, ad apicem plerumque dichotomis vel trichotomis, 12 ad 20 cm longis, 6- ad 20-floris; floribus confertis, bracteis lanceolatis, villosis, circiter 5 mm

longis; sepalis subliberis, oblongo-lanceolatis, obtusis, ciliatis, 2 mm longis; corolla 6 ad 7 mm longa, circiter 8 mm diametro, lobis 5, oblongis ad oblongo-ovatis 3 ad 3.5 mm longis; filamentis 3 mm longis, antheris subglobosis; ovario villosa cum stylo 6 mm longo.

Mount Poi, No. 190, E. Mjöberg, altitude above 1500 m.

A species allied to *Didymocarpus rufescens* C. B. Clarke but with more numerous flowers, the flower bearing parts of the inflorescences not exceeding 3 cm in length, acute leaves, very much longer petioles, smaller flowers and pale, not rufous indumentum.

DIDYMOCARPUS SCABRINERVIA C. B. Clarke, Merr. Enum. Born. Pl. (1921) 528.

Mount Poi, No. 192, altitude about 1500 m. Known only from Borneo.

DIDYMOCARPUS TERES C. B. Clarke, Merr. l.c.

Kuching, No. 171, at low altitudes. Known only from Sarawak.

DIDYMOCARPUS spp.

Mounts Matang, Dulit, and Murud, Nos, 9, 86, 204, representing three distinct species but the specimens are all too imperfect to warrant identification beyond the genus.

BOEA Commerson.

BOEA BRETTIANA W. W. Sm., Merr. Enum. Born. Pl. (1921) 529.

Bidi Caves, s.n., June. Known only from Sarawak.

TRICHOSPORUM D. Don.

TRICHOSPORUM LOBBIANUM (Hook.) O. Kuntze, Merr. Enum. Born. Pl. (1921) 530.

Mount Dulit, No. 17, altitude about 1200 m. Malay Peninsula, Sumatra, and Java.

TRICHOSPORUM LONGIFLORUM (Blume) O. Kuntze, Rev. Gen. Pl. (1891) 477.

Lysionotus longiflorus Blume Bijdr. (1826) 766.

Aeschynanthus longiflorus DC., C. B. Clarke in DC. Monog. Phan. 5 (1883) 32.

Mounts Poi and Penrissen, *No. 188, s.n.* The specimens agree very closely with the descriptions and figures of this species which was previously known only from Java. The leaves are more slenderly acuminate than in the Javan form, while the pedicels are somewhat shorter and the sepals slightly longer.

TRICHOSPORUM MJÖBERGII sp. nov. § *Holocalyx*.

Frutex scandens, glaber, ramulis 2 ad 3 mm diametro; foliis crasse coriaceis, ellipticis ad oblongo-ellipticis, 7 ad 11 cm longis, 3 ad 5 cm latis, basi acutis, apice perspicue acuminatis, nervis lateralibus circiter 6, curvato-adscedentibus, tenuibus, valde obscuris vel obsoletis; petiolo crasso, 5 ad 10 mm longo; inflorescentiis bifloris, terminalibus; floribus permagnis, 8 ad 9 cm longis, leviter curvatis, glabris; calyce 2.5 cm longi, deorsum angustati, lobis oblongo-ovatis, acutis vel obtusis, 5 mm longis; corolla sursum ampliata, leviter curvata, ore paullo obliquo, lobis orbiculari-obovatis, circiter 1 cm diametro, margine leviter ciliatis; antherae vix exsertae, 3 ad 4 mm longae, filamentae sursum parcellissime ciliatae.

Mount Murud, *No. 81, 89 (type)* E. Mjöberg, October, 1922, at or above an altitude of 1900 m.

A remarkably distinct species on account of its very large flowers, the upper part of the corolla tube, when flattened, being from 1.5 to 2 cm in width. The calyx lobes are about one-fifth the length of the tube. The ovary and style are glabrous, except the sparingly pubescent upper 6 mm of the latter, the large capitate stigma being about 3.5 mm in diameter.

TRICHOSPORUM OBCONICUM (C. B. Clarke) O. Kuntze, Merr. Enum. Born. Pl. (1921) 531.

Mount Poi, *No. 189, s.n.*, above an altitude of 1500 m. Malay Peninsula.

DICHROTRICHUM Reinwardt.

DICHROTRICHUM STENOPHYLLUM sp. nov.

Frutex scandens, ut videtur epiphyticus, caulis repens, radicans, 5 mm diametro; foliis glabris, ut videtur carnosis, in siccitate coriaceis, fragilis, anguste oblanceolatis, circiter 25 cm longis, 4 cm latis, tenuiter acute acuminatis, deorsum

longe angustatis, margine sursum irregulariter denticulatis, deorsum integris, nervis primariis utrinque circiter 10, obscuris; petiolo crasso, 6 ad 8 cm longo; inflorescentiis axillaribus, 6 ad 7 cm longis, paucifloris, subcymosis, sessilibus vel breviter pedunculatis; bracteis lanceolatis, acuminatis, 1.8 ad 2.5 cm longis, 4 ad 8 mm latis, leviter pilosis; floribus circiter 4 cm longis, ut videtur coccineis, curvatis; sepalis liberis, lanceolatis, leviter pubescentibus, plerumque acutis vel obtusis; corolla sursum inflata, leviter curvata, ore oblique, lobi superiores erecti, orbiculari vel suborbiculari, 2 ad 3 mm diametro, inferiores patenti, longiores; filamentis glabris, longe (circiter 2 cm) exsertis.

Mount Dulit, *No. 18*, E. Mjöberg, January, 1923, above an altitude of 1200 m.

A species radically different from the other described species in this genus in its narrow, elongated, oblanceolate leaves. It is not closely allied to any previously described form.

MONOPHYLLEA R. Brown.

MONOPHYLLEA BECCARII C. B. Clarke, Merr. Enum. Born. Pl. (1921) 533.

Bidi Caves, *No. 174*. Known only from Sarawak.

MONOPHYLLEA LOWEI C. B. Clarke, Merr. l.c.

Bidi Caves, *No. 176*. Known only from Borneo.

MOULTONIA Balfour and W. W. Smith.

MOULTONIA SINGULARIS Balf. and W. W. Sm., Merr. Enum. Born. Pl. (1921) 533.

Bidi Caves, *s.n.* A monotypic genus known only from Sarawak.

EPITHEMA Blume.

EPITHEMA sp.

Bidi Caves, *No. 175*, material imperfect.

CYRTANDRA Forster.

CYRTANDRA sp.

Mount Penrissen, *s.n.* A single specimen without flowers or fruits.

ACANTHACEAE.

HALLIERACANTHA Stapf.

HALLIERACANTHA GRANULATA Stapf, Merr. Enum. Born. Pl. (1921) 541.

Lundu, No. 228. The type locality. Known only from this region. There are four other numbers representing this family in the collection, but flowers are lacking in each case so that I cannot carry the determinations to the genera with safety.

RUBIACEAE.

XANTHOPHYTUM Blume.

XANTHOPHYTUM CAPITATUM Valeton, Merr. Enum. Born. Pl. (1921) 543.

Mount Poi, *s.n.*, near the foot of the mountain. Previously known only from Dutch Borneo.

OLDENLANDIA Linnaeus.

OLDENLANDIA CORYMBOSA Linn., Merr. Enum. Born. Pl. (1921) 544.

Lundu, No. 231. Pantropic, but probably introduced in the American tropics.

HEDYOTIS Linnaeus.

HEDYOTIS CAPITELLATA Wall., Merr. Enum. Born. Pl. (1921) 545.

Mount Poi, No. 149, near the foot of the mountain. Malay Peninsula and Archipelago.

HEDYOTIS TETRANGULARIS (Korth) Miq.?, Merr. op. cit. 547.

Mount Matang, *s.n.*, altitude 300 m. The identify of this with the above species is doubtful. It is known only from Borneo.

HEDYOTIS SUBCAULIS sp. nov. § *Diplophragma*.

Planta parva, suffruticosa, circiter 6 cm alta, glabra, caulis 1 mm diametro, teretibus, vix 1 cm longis, haud ramosis; foliis numerosis densissime confertis, lanceolatis, laevis,

viridibus, subtus pallidioribus, breviter petiolatis, 1.5 ad 4 cm longis, 4 ad 6 mm latis, chartaceis, acuminatis, basi acutis, nervis lateralibus utrinque circiter 3, adscendentibus, valde obscuris vel obsoletis; petiolo circiter 2 mm longo; stipulis lanceolatis, acuminatis, 2 ad 2.5 mm longis, parce laceratolobatis, lobulis glandulosis; cymis axillaribus, tenuiter pedunculatis, paucifloris, dichotomis, circiter 5 cm longis; floribus 8 mm longis, pedicellis tenuibus, 1 ad 2 mm longis, bracteis lineari-lanceolatis, pedicellis subaequantibus; calycis tubo tereti, 1.5 mm longo, lobis oblongo-ovatis, subobtusis, 1 ad 1.2 mm longis; corollae tubo 4 mm longo, glabro, sursum leviter ampliato, lobis elliptico-ovatis, 2.5 ad 3 mm longis, obscurissime ciliatis; capsulis ellipsoideis, 3.5 mm longis, septicide dehiscentibus, apice inter lobis haud protrusis, seminibus parvis, atris numerosis.

Mount Matang, E. Mjöberg, *s.n.*, July 7, altitude about 300 m. This small species is strongly characterized by its very short simple stems which do not exceed 1 cm in length and which are leafy throughout, the lanceolate leaves being very densely crowded.

ARGOSTEMMA Wallich.

ARGOSTEMMA BORAGINEUM Blume var. *rotundifolium* Valetton, Merr. Enum. Born. Pl. (1921) 549.

Mounts Matang and Penrissen, *s.n.*, 218, at medium altitudes. Malay Peninsula, Sumatra, Java.

ARGOSTEMMA DULITENSE sp. nov.

Suffruticosa, erecta, simplex, circiter 28 cm alta, caulis in partibus foliiferis adpresse hirsutis exceptis glabra; caulis circiter 2.5 mm diametro, stricte erectis, partibus inferioribus (circiter 15 cm) defoliatis, glabris, internodiis circiter 1 cm longis, in partibus superioribus foliis oppositis numerosis ferrentibus; foliis in paribus valde inaequalibus, majoribus oblongo-ellipticis ad oblongo-lanceolatis, subcoriaceis, olivaceis, 3 ad 4.5 cm longis, 3 ad 4.5 cm longis, 1 ad 1.5 cm latis, utrinque circiter 15, patulis haud distinctis, petiolo circiter 3 mm longo; foliis minoribus stipulaeformibus, subsessilibus, subellipticis, 5 ad 7 mm longis; stipulis coriaceis, late ovatis, obtusis ad acutis, 5 ad 7 mm longis; inflorescentiis terminalibus, paucifloris, tenuibus, circiter 5 cm longis, solitariis vel binis, plerumque 2- vel 3-floris; floribus magnis,

umbellatis, longe (1.5 ad 2.5 cm) pedicellatis, 5-meris, albidis, circiter 2.5 cm diametro; sepalis lanceolatis, acuminatis, 2 ad 2.5 mm longis, petalis late lanceolatis, acutis, circiter 13 mm longis, et 4 mm latis.

Mount Dulit, No. 8, E. Mjöberg, between the altitudes of 1200 and 1500 m., January, 1923.

Strongly characterized by being entirely glabrous throughout except for the appressed-hirsute leafy parts of the erect simple stems; by its very unequal leaves which are numerous and crowded on the upper half of the stems; and by its lax, few flowered inflorescences, the flowers being unusually large in the genus.

Another species in the general group with *Ixora fulgens* Roxb., but with sessile leaves which are narrowed below the middle to the abruptly rounded or obtuse base, the base varying from 1 to 2.5 cm in width. The almost setiform tips of the stipules are about 7 mm in length.

IXORA STENOPHYLLA (Korth.) O. Kuntze Rev., Gen. Pl. (1891) 287; Ridl. in Trans. Linn. Soc. Bot. 3 (1893) 311;

Valeton in Engl. Bot. Jahrb. 44 (1910) 562; Merr. Enum. Born. Pl. (1921) 572.

Lundu and Mount Poi, Nos. 198, 235. Malay Peninsula.

The specimens agree with Korthals' brief description and also fairly well with Ridley's incomplete one (Fl. Malay Penins. 2, 94 (1923)). The type was from Southern Borneo, and the transfers of the specific name, made independently by O. Kuntze, Ridley, and Valeton, were all based on *Pareta stenophylla* Korth. From Miquel's ample description of *Pareta polita* (*Ixora polita* Boerl.) it is clear that the latter has little in common with *Ixora stenophylla* O. Kuntze as interpreted here and by Ridley.

IXORA TRICHOBOTRYS sp. nov.

Frutex (vel arbor parva?) inflorescentiis leviter pubescentibus exceptis glaber, ramulis subteretibus, circiter 2.5 mm diametro, pallidis, foliis chartaceis, oblongis, in siccitate pallidis, nitidis, 15 ad 23 cm longis, 5 ad 7 cm latis, perspicue acute acuminatis, deorsum angustatis, basi cuneatis; nervis primariis utrinque 16 ad 18, utrinque perspicuis, arcuato-anastomosantibus, reticulis laxis; petiolo 1 cm longo; stipulis circiter 1 cm longis, partibus inferioribus late ovatis, abrupte contractis et longe setoso-acuminatis; inflorescentiis

terminalibus, sessilibus vel brevissime pedunculatis, dense multifloris, circiter 6 cm diametro, leviter pubescentibus, ramis primariis paucis, patulis, circiter 1 cm longis, bracteis lineari-lanceolatis, leviter pubescentibus, acuminatis, 3 ad 5 mm longis, bracteolis simillimis, minoribus, vix 2 mm longis; floribus tenuibus, circiter 1.8 cm longis, in ramulis ultimis in triadibus dispositis, interioribus sessilibus, exterioribus distincte pedicellatis, pedicellis 2 ad 3.5 mm longis; calyce 1.5 mm longo, tubo ovoideo, glabro, vix 9.5 mm longo, lobis 4, lanceolatis, acuminatis, quam tubo duplo longioribus, glabris vel obscure pubescentibus; corollae tubo circiter 1.7 cm longo, glabro, lobis oblongo-lanceolatis, acutis vel obtusis, circiter 5 mm longis.

Lundu, Mount Gadin, No. 225, E. Mjöberg, May 24, altitude about 600 m.

A species well characterized among the Malaysian forms with the calyx lobes longer than the calyx tube by its sessile or subsessile, densely flowered, sparingly pubescent cymes, its prominently nerved leaves, and its slender flowers. It apparently belongs in the group with *Ixora multibracteata* Pearson.

PSYCHOTRIA Linnaeus.

PSYCHOTRIA ROBUSTA Blume, Merr. Enum. Born. Pl. (1921) 575.

Mount Poi, No. 146, near the foot of the mountain. Java.

CAMPANULACEAE.

PENTAPHRAGMA Wallich.

PENTAPHRAGMA ALBIFLORUM Pearson, Merr. Enum. Born. Pl. (1921) 585.

Santubong and Mount Poi, Nos. 162, 187, the latter number with much larger leaves than the former but clearly representing the same species. Known only from Borneo.

PENTAPHRAGMA OBTUSIFOLIUM sp. nov.

Suffruticosa, erecta, partibus junioribus floribusque perspicue stellato-furfuraceis; foliis coriaceis, late elliptico-ovatis, 9 ad 16 cm longis, 7 ad 12 cm latis, apice latissime rotundatis, basi late acutis, equilateralibus vel subequilateralibus, supra glaberrimis, olivaceis, subtus pallidioribus, disperse stellato-furfuraceis, margine deorsum integris, sursum crenatis vel

crenulatis, nervis primariis utrinque 3 vel 4, distinctis, adscendentibus; petiolo stellato-furfuraceo, circiter 3 cm inflorescentiis paucifloris axillaribus, haud scirpoideis, floribus fasciculatis vel depauperato-racemosis, bracteis, oblongo-ovatis, stellato-furfuraceis, circiter 13 mm longis et 6 mm latis, acutis vel obtusis, pedicellis crassis, usque ad 4 mm longis, densissime furfuraceis; calycis tubo 8 ad 9 mm longo, oblongo-obovoideo vel subcylindraco, circiter 6.5 mm diametro, extus stellato-furfuraceo; sepalis 5, oblongis, obtusis, extus stellato-furfuraceo, 8 mm longis, 2.5 ad 3 mm latis; petalis 5, ellipticis, obtusis, 11 mm longis, 6 mm latis, intus glabris, extus plus minusve stellato-furfuraceis; ovario 4- vel 5-loculare; filamentis 4 ad 5 mm longis, antheris haud visis; stylo crasso, cylindraco, 4 ad 5 mm longo.

Mount Murud, No. 112, E. Mjöberg, October, 1922, with a note "near the top," probably indicating an altitude approximately 1900 m.

A species strongly characterized by its stellato-furfuraceous indumentum, its nearly equilateral broadly rounded leaves, and its few flowered non-scorpoid inflorescences and relatively large flowers.

Attention is here called to the fact that among the species of the Malay Peninsula the name *Pentaphragma ellipticum* Poulsen in Kjøeb. Vidensk. Meddel. (1903) 321. t. 4, type from Singapore and Johore replaces *Pentaphragma ridleyi* King in Journ. As. Soc. Bengal 74, part 2 (1905) 57; Ridl. Fl. Malay Penins. 2 (1923) 202.

COMPOSITAE.

BLUMEA de Candolle.

BLUMEA AROMATICA (Wall.) DC. Prodr. 5 (1836) 446.

Mount Penrissen, No. 223, altitude about 1300 m. India to Malaysia but not previously recorded from Borneo

VERNONIA Schreber.

VERNONIA CINEREA (Linn.) Less., Merr. Enum. Born. Pl. (1921) 586.

Lundu, No. 238. A pantropic weed probably of Old World origin.

SONCHUS Linnaeus.

SONCHUS ARVENSIS Linn., Merr. Enum. Born. Pl. (1921) 590

Kuching, No. 165. A weed in most warm countries